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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/545,110	04/06/2000	Thorsten B. Lill	3117/SILICON/MBE	9276

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APPLIED MATERIALS, INC.
2881 SCOTT BLVD. M/S 2061
SANTA CLARA, CA 95050

EXAMINER

PADGETT, MARIANNE L

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/545,110

Applicant(s)

Lill et al

Examiner

M.L. Padgett

Group Art Unit

1762

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 11/5/02
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☐ Claim(s) 1, 7-9, 13-16, 18, 20-28, 30-37, 78-90+102-108 is/are pending in the application.
- Of the above claim(s) 9, 14 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed:
- ☒ Claim(s) 1, 7-8, 13, 15-16, 18, 20-28, 30-37, 78-90+102-108 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

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1. Applicant's election without traverse of the species (e) detection end points in Paper No. 4 is acknowledged.

Note amendments to the claims have changed claims 9 and 14 from generic claims, to non-elected species.

2. Claims 107-108 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

107 & 108
not
correct

In the last lines of claim 107 and 108, "slope" or "slope criteria" of what? That it is some how related to the signal does not say how it relates, where it comes from or is derived from, etc. If this slope criteria has to do with the shape of the deposit, i.e., its slope, then these are non-elected claims. A signal from a controller that is an electronic device, such as a computer, is generally electronic, and has no "slope" *per se*, unless further definition is provided to the claims. It is noted that p. 29, line 19⁺ discusses the slope, valley and peaks of a trace which may be derived from a signal, but there is nothing in the claims that relates to any trace, so the claims can not be read in light of that discussion. As written, these claims may be considered unexaminable. Note p. 29 does not relate generically to any and every "slope criteria", but only to triggering on upward or down ward slopes of the trace.

3. Applicant's citation of p. 30 to define "factory automated host computer" (refer # 300 in Fig. 9) is noted, and it appear that in light of this disclosure virtually any computer control reads on this feature, as the discussion thereof pertains to may features it may control, but no necessary scope, except that it is a computer connected to the controller.

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4. Claims 78, 83 and 88 remain rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ See the paragraph bridging p. 5-6 in paper # ³19.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 8, 18-20 and 83-87 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the processes of polishing silver, as exemplified by the directions on the Jamestownne Silver Polish (See copy of label), as discussed in section 8 of paper # 9.

This rejection is maintained, because polishing tarnished silver as in the instruction includes an underlayer layer of the Ag, a layer of the tarnish and a over layer of the polish material. Also note that one eyes are dynamic receptors of light amplitude signals, and ones brain determines, i.e., calculates when the polishing job is finished. It is not the application that determines tarnish removal, but the person doing the process, and their eyes are the detecting

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means, so applicants' arguments are not convincing. The claims remain too broad to exclude such processes.

7. Kruppa is removed as a 102 since counting minima and/or maxima is different than measuring change in amplitude, as the dynamic variance now claimed requires.

8. Claims 1-3, 7-8, 10, 13, 15-28, 30, 78-80, 82-85 and 87-90 are rejected under 35 U.S.C. 102(b) as being anticipated by Busta et al, as discussed in section 11 of paper # ~~9~~³.

Applicant alleges that Busta et al only deals with fixed values, not dynamic variances of amplitude. However, their attention is directed to the strip charts that record wave output. While Fig. 4a is of even amplitude maxima, Fig. 3b and 4b show clear variance in amplitude, so Busta et al includes features as claimed.

9. Claims 81, 86 and 102-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Busta et al, as applied in paper # ~~19~~³, section 12.

10. Claims 1-2, 7-8, 13, 15-20, 22 and 78-90 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Christol et al, as applied in paper # ~~19~~³, section 13.

Claims 102-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christol et al, as applied in paper # ~~19~~³, section 13.

Since there's a substrate and materials are being removed or applied, there are overlaying and underlaying materials therein. One need not use the term "dynamic variance of amplitude" for that limitation to be featured or present in a process. Measuring amounts or intensities of light, and subtracting values to determine end points, show that there is dynamic change. To go below or above a threshold requires change, and amounts or intensities of light are equivalent to

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amplitude. Alternately, given Christol et al's measurement teaching, when measuring the quantities of reflected or inflected light, it would have been obvious to measure the amplitude thereof, as it is a commonly used indication of light quantities which are being measured.

11. Claims 31-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brooks, Jr. et al, as applied in section 14 of paper # ~~19~~³.

Claims 31-37 have not been amended, and have no requirement for dynamic variance amplitudes. Nor were any arguments concerning or particularly directed to these claims found.

12. Claims 1-3, 7-8, 10, 15-21, 23-28, 30-35 and 78-87 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Schoenborn, as previously discussed in section 15 of paper # ~~19~~³.

Claims 102-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schoenborn, as in paper # ~~19~~³, section 15.

Schoenborn measures both variations in plasma emission intensities (abstract) and interference patterns. Measuring one does not negate teaching measuring the other. Note the abstract explicitly relates intensity measurement to determining thickness etch rate and uniformity, thus reading in claimed language, because semantics differences are not convincing as patentable differences, and intensity measurements are analogous to or suggestive of amplitude.

13. Applicant's arguments filed 11/5/02 and discussed above have been fully considered but they are not persuasive.

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14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. L. Padgett whose telephone number is 703-3087-2336 on Monday-Friday from about 8:30 am - 4:30 pm and Fax # (703) 872-9310 (regular formal); 872-9311 (after final); and 305-6078 (informal).

M. L. Padgett/mn 01/30/03
February 12, 2003



MARIANNE PADGETT
PRIMARY EXAMINER